

## **REMARKS**

### **Claim Rejections**

Claims 1, 3-6, 10, 12 and 14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Isohata et al (US 6,288,489) in view of Kim et al. (US PUB 2003/0025428). Claims 2, and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Isohata et al (US 6,288,489) in view of Kim et al (US PUB 2003/0025428) in further view of Reisenauer et al. (US 6,161,910).

### **Arguments**

Regarding Claims 1, 3-6, 10, 12 and 14 being rejected under 35 U.S.C. §103(a) as being unpatentable over Isohata et al (US 6,288,489) in view of Kim et al. (US PUB 2003/0025428), Applicant submits the following arguments 1-6 for consideration.

1. In Isohata et al (US 6,288,489), according to the description from line 41 of column 7 to line 43 of column 8, and Fig 5A, 5B and 5C, the PDP 10 can be respectively affixed to any of the three plates 18a, 18b and 18c via three means.

The first means is shown in Fig. 5A, wherein the PDP 10 is affixed to the plate 18 via a uniform layer of adhesive 1a.

The second means is shown in Fig. 5B, wherein the plate 18 comprises convex parts 181 and concave parts 182, with adhesive layers 1b formed between the plate 18b and the PDP 10 in the concave parts 182, and the convex parts 181 are directly contacted to the PDP 10 without intervening adhesive layers 1b so that there is **no gap formed between the convex parts 181 of the plate 18b and the PDP 10.** (Refer to lines 5 and 6 of column 8 in Isohata et al)

The third means is shown in Fig. 5C, spacers 3 (rather than **spaces**) are disposed in locations corresponding to the convex parts 181 of the plate 18b and, thus, the skilled artisan would easily realize that the spacers 3 **are solid, not empty spaces.** Furthermore, theses spacers 3 are disposed between the adhesive layers 1c for replacing the function of the convex parts 181, i.e., for providing good contact and attachment between the PDP 10 and plate 18c. According to Fig. 5C and following the statement in Isohata et al, the skilled artisan would easily realize that

for providing good contact and attachment between the PDP 10 and plate 18c, there must be no **gap formed between the plate 18c and the PDP 10**. Thus, Isohata et al. **at least fail to teach or suggest** that “an annular channel”, “the annular channel divides the laminar attachment structure into an outer closed portion and an inner portion” **and** “the annular channel communicates with the external environment through at least one vacuum-pumping aperture formed at the heat-dissipating plate” as claimed in the present application.

With reference to above analyses, **it is obvious that the structure and the function of the annular channel as disclosed in the present invention are much different from those of the spacers 3 as disclosed in Isohata et al.**

Furthermore, according to the statement in paragraph [0055] and Fig. 8 of Kim et al. (US PUB 2003/0025428), when the heat conductive medium 54 is in combination with the chassis base and the PDP, an original pressurizing power must be applied. Due to the presence of **the holes 54d, the overall area of the heat conductive medium 54 is reduced, and it is necessary to apply a corrected pressurizing power respectively smaller than the original pressurizing power to engage the combination, so as to save the cost of power.** There is no evidence presented that the **holes 54d** in Kim et al. are capable of coupling vacuum-pumping. In other words, **the objective of holes 54d** in Kim et al. **is irrelevant to the vacuum-pumping aperture** in the present invention. Furthermore, there is no motivation presented that Kim et al. intend to carry out vacuum-pumping via the holes 54d.

However, in the present invention, the vacuum-pumping aperture is formed in the heat-dissipating plate so that the annular channel communicates with the external environment. Hence, one of the objectives, i.e., pumping air out of the annular channel between the plasma display panel and the heat-dissipating plate, can be carried out. Obviously, **there is no motivation for the skilled artisan to modify the Isohata's invention to combine the holes 54d in Kim et al. to have the technical feature of the present application.** Therefore, under the consideration of 35 U.S.C. §103(a), **the claim 1 of the present invention should be patentable over Isohata et al in view of Kim et al.**

2. Referring to the description from line 41 of column 7 to line 43 of column 8, and Fig 5A, 5B and 5C in Isohata et al (US 6,288,489), the PDP 10 can be respectively affixed to three plate 18a, 18b and 18c via three means. From any of the three means (for providing good performance of the attachment between the PDP 10 and any of the three plates 18a, 18b and 18c) Isohata et al **intends to prevent the formation of a gap between the convex parts 181 of the plate 18b and the PDP 10.** Furthermore, as discussed in argument 1, Isohata et al fail to disclose the attachment structure can be divided into the outer portion and the inner portion; such that there is no inner portion in Isohata et al for dividing into at least two regions. In Kim et al. (US PUB 2003/0025428), the double-face tapes 26 are distributed around the heat-dissipating plate without forming any trench dividing the inner portion into at least two regions. Thus, it is obvious that **neither Isohata et al nor Kim et al. has any teaching, suggestion or motivation for forming the trench to divide the inner portion into at least two regions** between the PDP and the heat conducting plate. Therefore, the claim 4 of the present invention should be patentable over Isohata et al in view of Kim et al.

3. Referring to the description of paragraph [0055] and Fig. 8 of Kim et al. (US PUB 2003/0025428), the holes 54d are formed to reduce the overall area of the heat conductive medium 54, so that it is just necessary to apply a corrected pressurizing power respectively smaller than the original pressurizing power to engage the combination, so as to save the cost of power. Thus, Kim et al. (US PUB 2003/0025428) fails to provide any teaching, suggestion or motivation presenting that intends to carry out vacuum-pumping via the holes 54d. Therefore, the claim 5 of the present invention should be patentable over Isohata et al in view of Kim et al.

4. Regarding claim 6, please refer to the arguments 1 and 2, and Applicant further submits that claim 6 should be patentable due to the following two reasons.

Firstly, **there is no motivation for Isohata et al (US 6,288,489) to configure the trench formed to divide the inner portion into at least two regions because it would not be possible to still provide good attachment performance.** On the contrary, **Isohata et al (US 6,288,489) intends to prevent a gap from being**

**formed between the PDP 10 and any of the three plates 18a, 18b and 18c so as to provide good attachment performance.**

Secondly, **there is no motivation for the skilled artisan to combine Isohata et al and Kim et al. to carry out air pumping via the holes 54d to the external environment.**

5. Regarding claim 10, please refer to the argument 1. Except for the difference between Isohata et al (US 6,288,489) in view of Kim et al. (US PUB 2003/0025428) and the present invention as mentioned in the argument 1, Applicant submits that claim 10 is patentable due the following two reasons.

Firstly, the respective guide trench of the present invention is an empty space for assisting in guiding air. However, **the spacer 3 (being viewed as the respective guide trench according to the Examiner's viewpoint) is a solid element, which is not capable of guiding air.**

Secondly, according to the description of paragraph [0055] and Fig. 8 of Kim et al. (US PUB 2003/0025428), the holes 54d (being viewed as the vacuum-pumping aperture according to the Examiner's viewpoint) is applied to reduce the overall area of the heat conductive medium 54, so that it is only necessary to apply a corrected pressurizing power respectively smaller than the original pressurizing power to engage the combination, so as to save the cost of power. Thus, **there is no motivation that Kim et al. intends to carry out vacuum-pumping via the holes 54d.** Obviously, **the skilled artisan would not have any motivation to modify the Isohata's invention to combine the holes 54d in Kim et al. to have the technical feature of the claim 10 of the present application.** Therefore, **the claim 10 of the present invention should be patentable over Isohata et al in view of Kim et al.**

6. Regarding claim 12, in the present invention, the skilled artisan would consider vacuum-pumping apertures to be configured for carrying out vacuum-pumping, and this concept is clearly neither disclosed by Isohata et al (US 6,288,489) in view of Kim et al. (US PUB 2003/0025428). Thus, prior to the present invention, the skilled artisan did not recognize the effects of vacuum-pumping which can provide many advanced performance features, such as providing good fastening between the PDP and heat-dissipating plate, and contributing to guiding out air within the closed region to promote heat-dissipating, etc. Under this background,

Applicant has discovered that the preferred dimension of the space shall be 3 mm to 20 mm to ensure optimized performance of vacuum-pumping. Therefore, the claim 12 of the present invention should be patentable over Isohata et al in view of Kim et al.

Regarding claims 2, and 13 being rejected under 35 U.S.C. §103(a) as being unpatentable over Isohata et al (US 6,288,489) in view of Kim et al (US PUB 2003/0025428) in further view of Reisenauer et al. (US 6,161,910), Applicant submits argument 7 for consideration.

7. Except for the difference between Isohata et al (US 6,288,489) in view of Kim et al. (US PUB 2003/0025428) and the present invention as mentioned in the arguments 1 and 5, claims 2 and 13 still should be patentable due the following two reasons.

Firstly, the thermal pad 84 in Reisenauer et al. (US 6,161,910) is applied to transfer heat from the LED assembly 20 to the heat sink 28. Moreover, the fastening between the LED assembly 20 and the heat sink 28 is carried out via perforating the wires or fastening the fasteners 86 and 88, and it is obvious that the thermal pad 84 is irrelevant to performing any function contributing to the fastening between the LED assembly 20 and the heat sink 28.

However, the thermal pad serving as the laminar attachment structure in the present invention can form the inner portion within the outer closed portion or form the closed region, and both the inner portion or the closed region communicate with the external environment via the vacuum-pumping aperture for carrying out air to contribute to the fastening between the heat-dissipating plate and the PDP. Thus, the construction of the thermal pad served as the laminar attachment structure not only can transfer heat from the PDP to the heat-dissipating plate, but also can contribute the fastening between the heat-dissipating plate and the PDP.

The present invention can provide an additional function to facilitate the fastening between the heat-dissipating plate and the PDP via the special construction design (i.e. the outer closed portion and the closed region) of the thermal pad, and the idea is not obvious to the skilled artisan. Thus, under the consideration of 35 U.S.C. §103(a), the claims 2 and 13 of the present invention

**should be patentable over Isohata et al (US 6,288,489) in view of Kim et al (US PUB 2003/0025428) in further view of Reisenauer et al. (US 6,161,910).**

Applicant submits that neither Isohata et al., Kim et al. nor Reisenauer et al disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's pending claims.


**Summary**

In view of the foregoing remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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